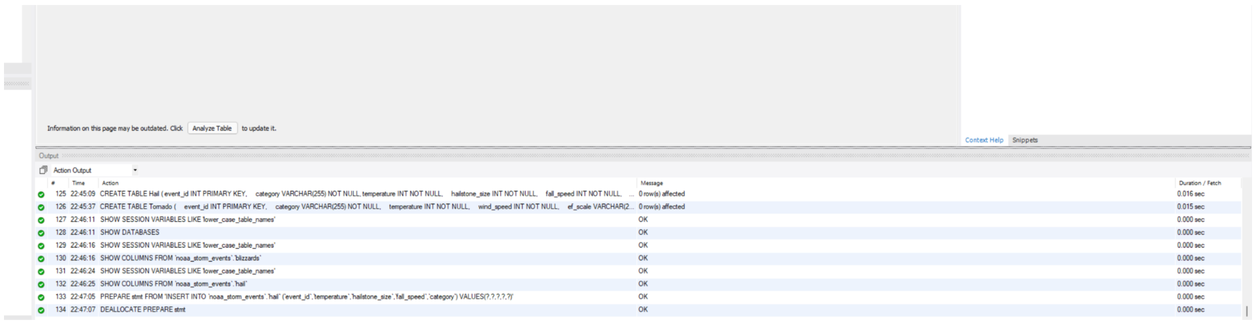
Running locally via MySQL Workbench:
Sample CSV generated with Mockaroo: https://www.mockaroo.com/ (1000 entry limit)


Information on this page may be outdated. Click Analyze Table to update it.
Context Help
Snippets
Output
Action Output

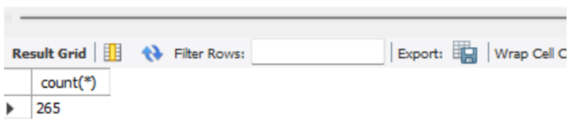
```
#    Time      Action                                                                                                                          Message            Duration / Fetch
125  22:45:09  CREATE TABLE Hail ( event_id INT PRIMARY KEY,    category VARCHAR(255) NOT NULL, temperature INT NOT NULL,    hailstone_size INT NOT NULL,    fall_speed INT NOT NULL,    ...   0 row(s) affected  0.016 sec
126  22:45:37  CREATE TABLE Tornado (    event_id INT PRIMARY KEY,    category VARCHAR(255) NOT NULL,    temperature INT NOT NULL,    wind_speed INT NOT NULL,    ef_scale VARCHAR(2...   0 row(s) affected  0.015 sec
127  22:46:11  SHOW SESSION VARIABLES LIKE 'lower_case_table_names'                                                                            OK                 0.000 sec
128  22:46:11  SHOW DATABASES                                                                                                                  OK                 0.000 sec
129  22:46:16  SHOW SESSION VARIABLES LIKE 'lower_case_table_names'                                                                            OK                 0.000 sec
130  22:46:16  SHOW COLUMNS FROM `noaa_storm_events`.`blizzards`                                                                               OK                 0.000 sec
131  22:46:24  SHOW SESSION VARIABLES LIKE 'lower_case_table_names'                                                                            OK                 0.000 sec
132  22:46:25  SHOW COLUMNS FROM `noaa_storm_events`.`hail`                                                                                    OK                 0.000 sec
133  22:47:05  PREPARE stmt FROM 'INSERT INTO `noaa_storm_events`.`hail` (`event_id`,`temperature`,`hailstone_size`,`fall_speed`,`category`) VALUES(?,?,?,?,?)'   OK   0.000 sec
134  22:47:07  DEALLOCATE PREPARE stmt                                                                                                         OK                 0.000 sec
```

Database Design Queries:

```
CREATE DATABASE NOAA_Storm_Events;

CREATE TABLE Category (
    category_id INT PRIMARY KEY,
    category_name VARCHAR(255) NOT NULL
);

CREATE TABLE User (
    user_id INT PRIMARY KEY,
    user_name VARCHAR(255) NOT NULL,
    password VARCHAR(255) NOT NULL
);

CREATE TABLE WeatherEvent (
    event_id INT PRIMARY KEY,
    event_begin_time DATETIME,
    event_end_time DATETIME,
    damage_property INT,
    deaths_direct INT,
    deaths_indirect INT,
    injuries_direct INT,
    injuries_indirect INT,
    damage_crops INT
);

CREATE TABLE Tornado (
    event_id INT PRIMARY KEY,
    category VARCHAR(255) NOT NULL,
    temperature INT NOT NULL,
    wind_speed INT NOT NULL,
    ef_scale VARCHAR(255) NOT NULL,
    tornado_size INT NOT NULL,
    FOREIGN KEY (event_id) REFERENCES WeatherEvent(event_id),
    FOREIGN KEY (category) REFERENCES Category(category_name)
);

CREATE TABLE Blizzards (
    event_id INT PRIMARY KEY,
    category VARCHAR(255) NOT NULL,
    temperature INT NOT NULL,
    wind_speed INT NOT NULL,
    snow_depth INT NOT NULL,
    FOREIGN KEY (event_id) REFERENCES WeatherEvent(event_id),
    FOREIGN KEY (category) REFERENCES Category(category_name)
);

CREATE TABLE Hail (
            event_id INT PRIMARY KEY,
    category VARCHAR(255) NOT NULL,
            temperature INT NOT NULL,
    hailstone_size INT NOT NULL,
    fall_speed INT NOT NULL,
    FOREIGN KEY (event_id) REFERENCES WeatherEvent(event_id),
    FOREIGN KEY (category) REFERENCES Category(category_name)
);
```

Sample select count (*)
FROM Categories query:

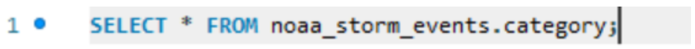
```
SELECT count(*) FROM noaa_storm_events.category;
```



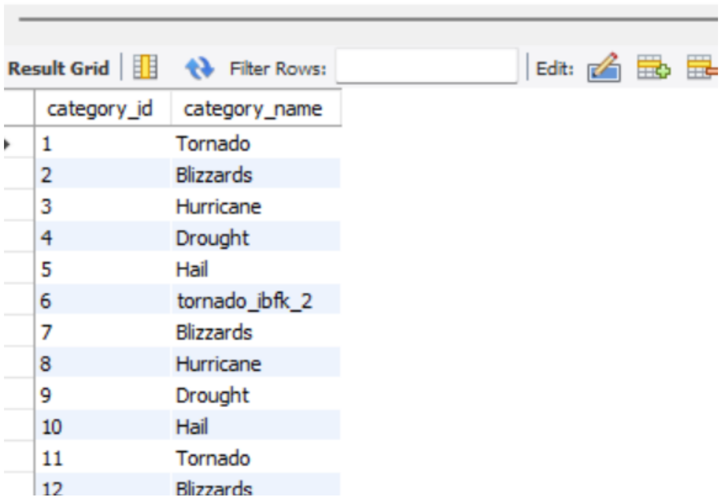
```
count(*)
265
```

265 due to mockaroo CSV limit.

Sample select * from categories query:



```
SELECT * FROM noaa_storm_events.category;
```



category_id	category_name
1	Tornado
2	Blizzards
3	Hurricane
4	Drought
5	Hail
6	tornado_ibfk_2
7	Blizzards
8	Hurricane
9	Drought
10	Hail
11	Tornado
12	Blizzards

Complex Queries:

Selection of the count of tornadoes directly resulting in a death toll above 20 per category of tornado.

```
SELECT count(*)
FROM Tornado JOIN WeatherEvent on (Tornado.event_id = WeatherEvent.event_id)
WHERE deaths_direct > 20
GROUP BY category;
```

Selection of the size of hailstone typical of a hail storm resulting in between $2000 and $4000 of property damage.

```
SELECT Hail.hailstone_size
FROM Hail
WHERE NOT IN (
        SELECT hailstone_size
        FROM Hail JOIN WeatherEvent ON Hail.event_id = WeatherEvent.event_id
        WHERE WeatherEvent.damage_property < 2000

        UNION
        SELECT hailstone_size
        FROM Hail JOIN WeatherEvent ON Hail.event_id = WeatherEvent.event_id
        WHERE WeatherEvent.damage_property > 4000
);
```